



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,616	12/21/2001	Gundu M. Sabde	150.0110 0101	6755

26813 7590 01/24/2005

MUETING, RAASCH & GEBHARDT, P.A.  
P.O. BOX 581415  
MINNEAPOLIS, MN 55458

EXAMINER
----------

MCDONALD, SHANTESE L

ART UNIT	PAPER NUMBER
----------	--------------

3723

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

51

**Office Action Summary**

Application No.

10/028,616

Applicant(s)

SABDE, GUNDU M.

Examiner

Shantese L. McDonald

Art Unit

3723

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 26 October 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-33 and 35-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-33,35-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/26/04</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

Claims 1-33 and 35-42 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1,14,24-27 and 42, claim, "wherein the method results in reduced smearing and defect formation on the planarized surface compared to the same method and surface planarized with a fixed abrasive article comprising alumina or silica particles". It is improper to compare claimed material to material that is not claimed. The planarization method of a surface with a fixed abrasive article comprising alumina or silica, is not claimed in the claims.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-33 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russel et al. as modified by James et al. and further in view of Sachan et al. (WO 01/44396)

Russell et al. teaches a planarization method comprising positioning a Group VIII metal-containing surface, which is elemental platinum and a platinum alloy, (col. 3, lines 33-

Art Unit: 3723

38), of a substrate, the substrate being a wafer, to interface with an abrasive article and supplying a planarization composition which comprises an oxidizing agent, (col. 5, line 20). Russell et al. also teaches providing a wafer having a patterned dielectric layer formed thereon and a Group VIII metal-containing layer formed over the patterned dielectric layer, (col. 1 line 57-col. 2, line 22). ). Russell et al. teaches all the limitations of the claims except for the abrasive article being a fixed abrasive article comprising a plurality of abrasive particles which are  $\text{CeO}_2$  having a hardness no greater than about 6.5 Mohs dispersed within a binder adhered to at least one surface of a backing material, the Group VIII metal being present in an amount of about 10, 20 or 50 atomic percent or more and the Group VIII surface being removed relative to the dielectric layer at a ration of at least 10:1. James et al. teaches an abrasive article being a fixed abrasive article comprising a plurality of abrasive particles which are  $\text{CeO}_2$  having a hardness no greater than about 6.5 Mohs, (col.5, lines 40-45) dispersed within a binder, (col. 10, lines 13-31), adhered to at least one surface of a backing material, (col. 13, lines 1-4). James et al. teaches that polishing can be performed with free abrasives in a polishing fluid and a polishing pad devoid of fixed abrasives, (col. 2, lines 30-33), and also with a fixed abrasive pad, with a polishing solution, free of abrasives.

Sachan et al. also teaches polishing a Group VIII metal containing surface of a wafer, using a fixed abrasive polishing pad, (pg. 8, lines 24-25) which comprises  $\text{CeO}_2$  having a hardness no greater than about 6.5 Mohs, (pg. 4, lines 1-6),

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the pad of Russell with the fixed pad, as taught by

James et al. and Sachan et al. in order to enhance the planarizing capabilities, and to minimize scratches and defects in the metal.

It would have been further obvious to provide the method of Russell with the Group VIII metal being present in an amount of about 10, 20 or 50 atomic percent or more dependant upon the substrate type, and the Group VIII surface being removed relative to the dielectric layer at a ration of at least 10:1, in order to control the removal rate, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

### ***Response to Arguments***

Applicant's arguments filed 10/26/04 have been fully considered but they are not persuasive.

The amendment to the claims has rendered them improper for the reasons given in the 112 2<sup>nd</sup> paragraph rejection. The added claim language is comparing the method with a limitation that is not claimed in the claims.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

Art Unit: 3723

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shantese L. McDonald whose telephone number is (703) 308-8722. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on (703) 308-2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



S.L.M.  
January 13, 2005

Joseph J. Hail, III  
Supervisory Patent Examiner  
Technology Center 3700